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193208 MLRS MISSILE NUMBER FV3-13 FV3-15 FV3-2 ROUND  
NUMBER 461/AT2-31 46..(U) ARMY ELECTRONICS RESEARCH AND  
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER 07 JUL 83

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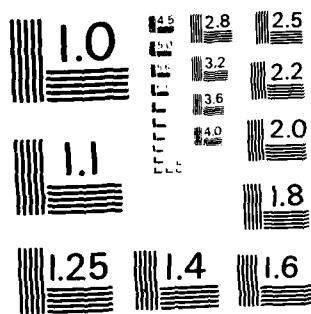
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Jul 83

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METEOROLOGICAL DATA REPORT  
19320B MLRS  
Missile Number FV3-13, FV3-15, FV3-2  
Round Number 461/AT2-31, 462/AT2-32, 463/AT2-33  
7 July 1983

by

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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19320B MLRS, Missile Number FV3-18, FV3-15, FV3-2, Round Number 461/AT2-31, 462/AT2-32, 463/AT2-33 are presented in tabular form.		

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## INTRODUCTION

19320B MLRS, Missile Numbers FV3-18, FV3-15 and FV3-2, Round Numbers 461/AT2-31 462/AT2-32 and 463/AT2-33, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1302:27, 1302:36 and 1302:41 MDT, 7Jul 83. The scheduled launch times were 1300, 1300:04.5 and 1300:09 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 Minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from Pilot-balloon observations at:

### SITE AND ALTITUDE

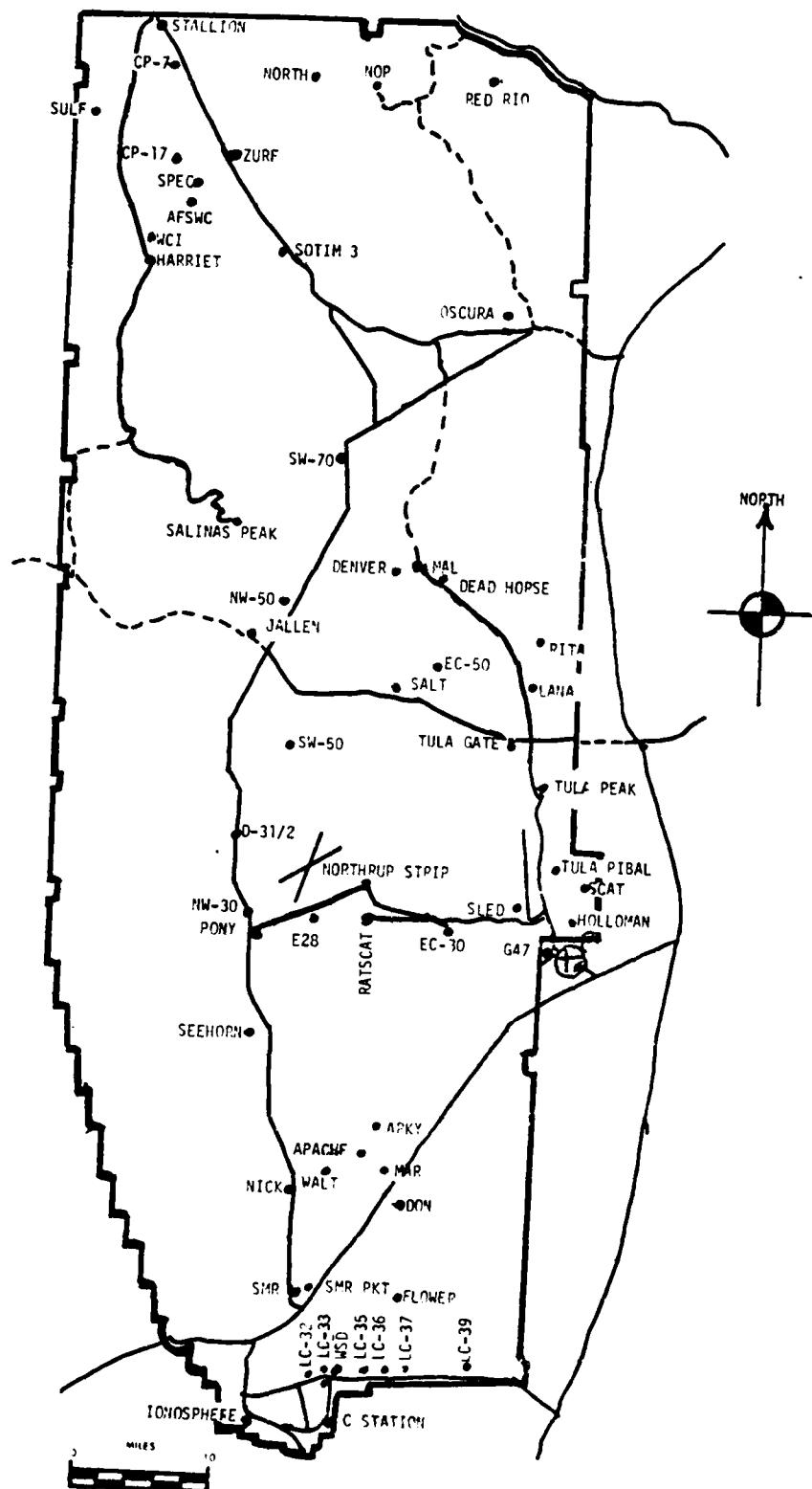
LC-33 2 km  
SMR 2 km

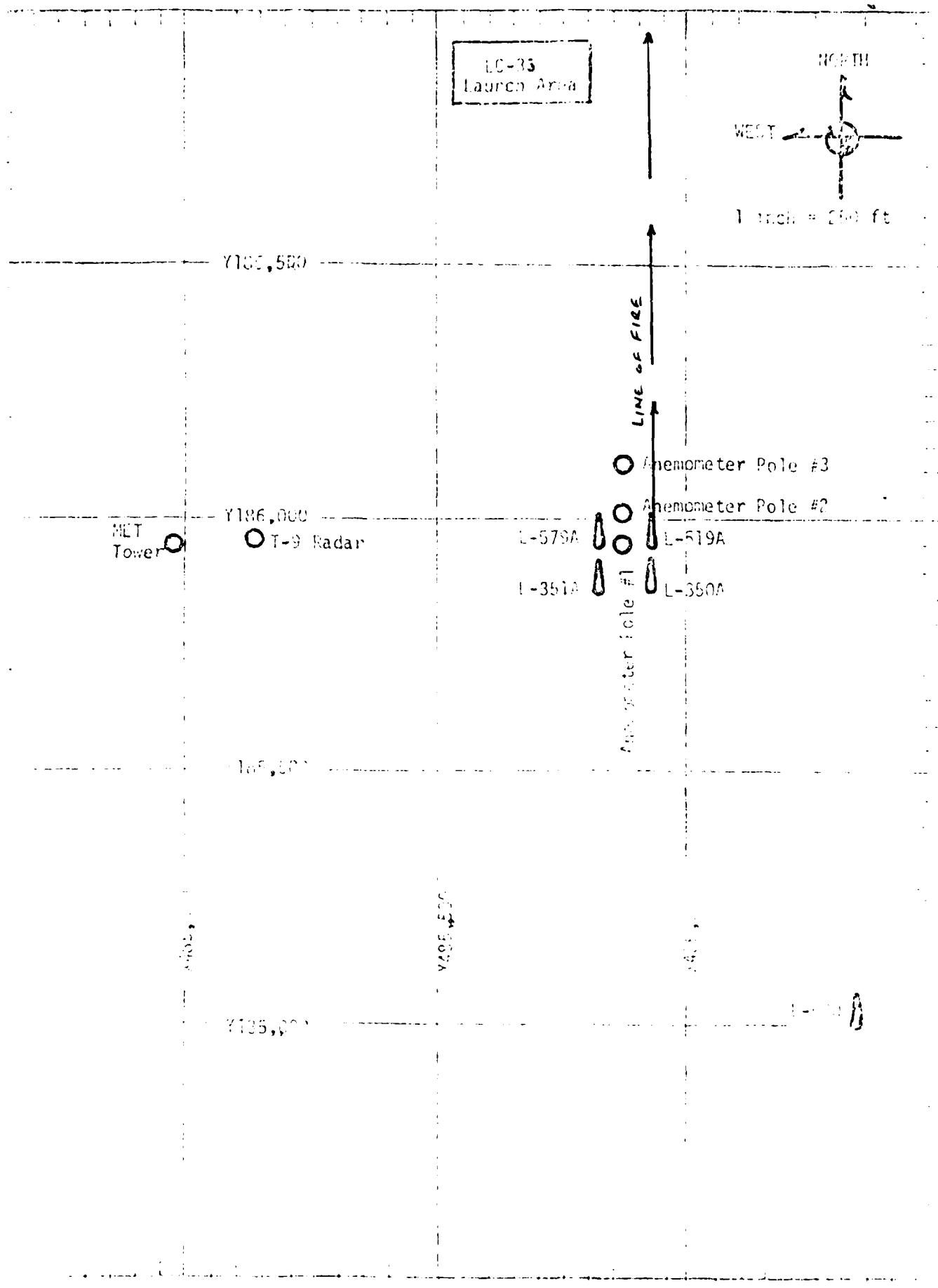
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

### SITE AND TIME

LC-37 1030 MDT  
WSD 1100 MDT  
WSD 1300 MDT

## WSMR METEOROLOGICAL SITES





PROJECT SURFACE DESIGNATION

TABLE I

DATE 07 JULY 83

STATION LC-33

$$X = \underline{484.982.64} \quad Y = \underline{185.957.73} \quad H = \underline{3995.00}$$

C1 6105

OBSTRUCTION (TO VISIBILITY)	CLOUDS						REMARKS	
	1st LAYER		2nd LAYER		3rd LAYER			
AMT	TYPE	HGT	AMT	TYPE	HGT	AMT	TYPE	HGT
6	CU	6500						

PSYCHOPROETRIC CIVILIZATION

TIME : MDT	1302	
DRY BULB TEMP.	35.6	
WET BULB TEMP.	21.0	
WET BULB DEPR.	14.6	
DEN POINT	14.5	
RELATIVE HUMID.	29	

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	145	04	T -30	139	00	T -30	132	05
T -20	145	04	T -20	153	00	T -20	147	05
T -10	145	06	T -10	135	01	T -10	170	06
T 0.0	145	10	T 0.0	153	06	T 0.0	170	09
T +10	145	10	T +10	139	06	T +10	162	07

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	MISG	MISG	T -30	177	05
T -20	MISG	MISG	T -20	156	04
T -10	MISG	MISG	T -10	144	04
T 0.0	MISG	MISG	T 0.0	138	04
T +10	MISG	MISG	T +10	149	05

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	162	05	T -30	171	05
T -20	149	04	T -20	163	05
T -10	145	04	T -10	164	04
T 0.0	147	04	T 0.0	162	04
T +10	143	04	T +10	162	05

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 07 July 1983

SITE: LC-33  
TIME: 1302 MDT  
WSTM COORDINATES:  
X= 484,837.34  
Y= 184,124.44  
H= 3,975.57

SITE: SMR  
TIME 1304 MDT  
WSTM COORDINATES:  
X= 472,441.28  
Y= 214,137.54  
H= 3,999.00

LAYER MIDPOINT <u>METERS AGL</u>	DIRECTION <u>DEGREES</u>	SPEED <u>KNOTS</u>
SURFACE		CALM
150	122	06
210	120	07
270	116	07
330	113	08
390	110	08
500	114	09
650	126	10
800	128	09
950	119	08
1150	121	10
1350	121	10
1550	129	09
1750	135	10
2000	134	09

Data obtained from a Double Theodolite Tracked pilot-balloon observation.

LAYER MIDPOINT <u>METERS AGL</u>	DIRECTION <u>DEGREES</u>	SPEED <u>K'</u>
SURFACE	140	08
150	147	08
210	148	07
270	170	08
330	146	08
390	148	11
500	155	15
650	155	13
800	158	10
950	155	10
1150	148	09
1350	127	05
1550	145	05
1750	146	07
2000	147	07

Data obtained from a RAPTS T-9 Radar Tracked pilot-balloon observation.

TABLE 5AIMING AND T-TIME COMPUTER MET MESSAGES  
07 July 1982

LC-37 1030 MDT	WSD 1100 MDT	WSD 1300 MDT
METCM1324063	"ETCM1324064	METCM1324064
071650124884	071700122884	071900122883
00196003 30300884	00231002 30490884	00231005 30720883
012770C4 30100874	01286006 30220874	01252009 30520874
02280008 29830850	02230006 29930850	02241007 30070849
03246012 29470811	03258009 29520812	03250009 29590811
04234011 29030765	04238012 29020766	04255005 29120766
05244010 28580721	05233010 28580722	05237008 28690722
06190011 28140679	06199010 28180680	06233004 28270680
07275006 27910639	07247005 27880640	07228006 27850640
08332003 27700601	08301005 27640602	08241004 27540602
09265011 27380565	09269008 27380565	09280008 27340565
10286016 27100531	10275094 27100531	10281012 27020531
11269022 26800498	11269019 26800499	11261020 26690498
12266030 26340453	12270027 26360453	12267028 26250452

STATION ALTITUDE 4311.7 FT MSL  
7 JULY 35 1030 MDT  
ASCENSION NO. 37

SUNSPOT LEVEL DATA  
1967103007  
LL-37  
TABLE 6

GEODETIC COORDINATES  
35°44'175 LAT DEG  
106°41'232 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MILLIBARS, MSL, FEET	TEMPERATURE AIR DEGREES CELSIUS	REFL.HUM. PERCENT	
			REFL.HUM. PERCENT	REFL.HUM. PERCENT
564.1	4351.4	27.7	13.3	41.0
577.7	4466.4	26.1	12.5	43.0
590.3	5196.3	25.3	11.7	48.0
715.1	7351.0	18.4	12.3	52.0
764.5	3186.6	15.5	8.7	64.0
715.7	15012.9	10.3	7.7	84.0
700.0	10221.1	9.1	7.7	71.0
514.2	11242.7	5.4	6.4	25.0
617.9	11592.0	6.1	1.4	74.0
465.4	11994.9	7.1	-2.6	50.0
627.5	13146.4	4.3	0.1	74.0
627.3	13581.1	5.0	-6.4	44.0
534.9	15003.5	2.9	-5.6	53.0
538.4	16216.9	0.2	-9.8	47.0
537.8	16670.6	-3	-11.3	45.0
551.2	17015.3	-1.1	-7.0	55.0
538.5	19116.9	-4.4	-18.6	32.0
530.0	19554.9	-5.4	-15.4	45.0
492.7	19934.3	-5.9	-21.3	27.0
476.5	20794.7	-7.7	-29.1	16.0
468.7	21214.6	-6.1	-23.4	16.0
445.1	22526.8	-10.4	-30.1	18.0
433.0	23231.4	-16.9	-35.0	19.0

STATION ALTITUDE 4751.17 FEET MSL  
7 JULY 83 1030 MDT  
ASCENSION NO. 97

UPPER AIR DATA  
193019JUN7  
1C-37  
TABLE 7

GEOMETRIC PRESSURE ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	GR/CUBIC METER	SOUND KNOTS	DIRECTION DEGREES(UT)	WIND DATA SPD(F) KNOTS	INDEX OF REFRACTION
4051.4	68.4	-7.7	13.3	41.3	1017.1	577.9	110.0	2.6
4530.0	67.0	-5.4	12.2	44.3	1002.5	675.2	130.6	4.4
5000.0	6555.5	23.4	11.9	47.0	997.3	673.5	151.5	6.7
5500.0	645.7	22.5	11.5	49.8	984.6	671.9	157.4	9.2
6000.0	625.1	21.2	11.2	52.8	971.9	670.4	144.0	11.7
6500.0	611.7	19.3	10.8	55.7	959.2	668.9	137.4	12.9
7000.0	797.5	18.3	10.2	59.7	946.8	667.3	137.7	10.60267
7500.0	783.5	17.5	9.7	51.0	934.4	655.8	150.1	13.2
8000.0	769.0	16.6	9.0	62.2	922.1	664.3	151.1	10.4
8500.0	755.9	14.6	8.0	67.4	919.0	662.7	134.9	9.4
9000.0	742.4	13.4	8.4	72.9	908.2	651.1	140.6	8.9
9500.0	729.1	11.8	6.1	76.4	886.5	659.4	138.1	2.4
10000.0	716.1	10.3	7.7	83.8	875.0	657.8	133.8	10.3
10500.0	703.1	9.3	7.7	89.6	862.2	656.6	124.2	10.8
11000.0	596.3	7.5	6.7	94.1	952.0	654.5	115.5	11.2
11500.0	677.7	6.5	5.7	83.4	841.0	652.7	105.6	11.6
12000.0	665.5	7.1	-2.6	52.1	826.5	653.1	110.2	10.1
12500.0	653.0	5.9	-1.2	66.5	912.7	651.8	123.7	9.0
13000.0	641.0	4.7	-0.2	76.5	801.7	650.5	143.7	5.5
13500.0	629.6	4.9	-4.8	49.0	786.4	650.4	170.4	6.4
14000.0	617.5	4.4	-6.0	46.7	771.4	649.7	182.4	5.2
14500.0	606.0	3.6	-5.9	49.8	761.1	648.9	184.5	3.1
15000.0	594.9	4.6	-5.6	53.0	742.1	648.0	170.6	7.7
15500.0	583.8	1.7	-7.4	50.5	738.2	646.0	152.2	6.6
16000.0	572.9	0.6	-9.1	43.0	727.6	645.3	149.4	8.7
16500.0	562.1	-0.2	-13.9	44.1	716.0	644.2	151.2	11.7
17000.0	551.5	-1.1	-9.0	54.5	704.7	643.3	156.5	13.8
17500.0	541.1	-1.9	-11.0	49.7	692.5	642.3	161.0	15.6
18000.0	530.6	-2.0	-13.1	44.2	682.5	641.2	160.4	16.4
18500.0	527.7	-3.4	-15.4	38.8	671.6	640.2	157.4	17.7
19000.0	510.3	-4.2	-17.9	13.3	661.0	639.2	152.9	18.5
19500.0	501.1	-5.3	-15.8	43.4	650.7	638.0	121.4	21.1
20000.0	491.4	-6.0	-22.2	26.2	640.6	637.0	151.3	23.6
20500.0	482.0	-7.1	-26.3	19.8	530.7	535.5	152.6	25.7
21000.0	472.7	-7.9	-29.4	16.0	620.5	626.6	157.4	26.5
21500.0	463.5	-8.6	-29.5	16.4	612.5	623.8	151.7	27.6
22000.0	454.4	-9.5	-29.0	17.2	603.2	612.7	140.3	23.9
22500.0	445.6	-10.3	-11.1	18.1	593.4	591.7	142.7	30.4
23000.0	436.3	-11.5	-30.9	18.2	581.4	579.6	148.4	37.5
23500.0	428.1	-12.0	-21.6	15.4	572.6	566.8	33.1	33.1

STATION ALTITUDE 4051.7 FEET MSL  
7 JULY 83 ASCENSION NO. 37 1030 MDT

## UPPER AIR DATA

18801 P0097

I.C-37

GEODETIC COORDINATES  
32°40'175 LAT DEG  
106°31'232 LONG DEG

TABLE 7 Cont'd

GEOMETRIC PRESSURE	TEMPERATURE	REL.HUM.	SPEED OF WIND DATA	INDEX		
ALTITUDE MSL FEET	AIR DEGREES MILLIBARS	DWP CENTIGRADE	GR/CUBIC METER	DEFLECTION DEGREES (CW)	SPED KNOTS	OF REFRACTION
24000.0	414.7	-14.6	18.6	567.3	627.3	33.2
24500.0	411.4	-15.2	-34.7	18.7	555.4	625.8
25000.0	403.2	-16.4	-34.6	18.9	547.0	624.5

STATION ALTITUDE 4031.7 FEET MSL  
7 JULY 1957 1030 MDT  
ASCENSION NO. 97

MANUFACTORY LEVELS  
186019007  
LC-37

GEODETIC COORDINATES  
32°41'175 LAT DEG  
106°31'32 LONG DEG

TABLE 8

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEWPONT CENTIGRADE	REL.HUM. PERCENT	WIND DATA	
					DIRECTION DEGREES (TN)	SPEED KNOTS
950.0	5162.	23.3	11.7	48.	154.5	7.6
850.0	6967.	18.8	10.6	58.	133.9	13.7
750.0	6714.	14.0	8.6	70.	137.5	8.3
700.0	10610.	9.1	7.7	91.	122.0	10.9
650.0	12617.	5.6	-7.9	63.	127.4	7.5
600.0	14754.	3.2	-5.8	52.	176.6	3.4
550.0	17052.	-1.2	-9.2	54.	157.2	14.1
500.0	14527.	-5.4	-15.4	45.	151.3	21.3
450.0	72217.	-9.9	-29.9	18.	148.8	29.6
400.0	75158.	-16.9	-35.0	19.		

STATION ALTITUDE 3990 FEET MSL  
7 JULY 95  
ACCESSION NO. 541 1100

SIGNIFICANT LEVEL DATA  
1887020741  
WHITE SANDS  
TABLE 9

GEODETIC COORDINATES  
57°46'43" LAT DEG  
106°37'33" LON DEG

PRESSURE GEODETIC MILLIBARS MSL FEET	ALTITUDE FEET	TEMPERATURE AIR DEGREES CENTIGRADE	WIND POINT DEGREES CANTIGRADE	REFL.HUM. PERCENT
504.0	3990.0	30.0	13.7	37.0
979.2	4146.0	27.4	12.6	60.0
310.0	5132.4	24.2	11.7	66.0
734.1	8219.1	14.1	8.9	71.0
744.3	8682.2	13.3	7.5	68.0
793.0	17569.8	9.0	5.9	81.0
435.5	10745.7	8.5	5.0	83.0
607.0	11046.3	7.0	4.7	84.0
535.1	11155.4	7.0	4.0	81.0
674.9	11555.5	7.0	3.9	55.0
567.4	12149.1	6.9	-1.0	57.0
627.7	13429.2	3.6	-6.6	74.0
615.1	14055.1	3.0	-12.4	31.0
547.8	14314.9	2.7	-3.4	64.0
591.8	16459.5	0.4	-9.5	55.0
545.3	17216.8	-1.3	-7.6	62.0
512.3	13445.3	-4.6	-11.4	57.0
505.0	19439.6	-5.1	-16.3	61.0
439.2	27117.1	-6.8	-27.4	15.0
405.3	21552.3	-3.0	-30.0	15.0
400.0	25152.3	-16.9	-36.7	16.0

STATION ALTITUDE 2959.00 FEET MSL  
7 JULY 8-1100 MDT  
ASCENSION HU. 341

WEATHER DATA  
1800Z 23741  
WHITE SANDS  
TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(CTN)	INDEX OF REFRACTION
1039.0	684.6	70.0	13.7	17.0	680.6	130.0	1.000290
1000.0	593.9	69.7	15.7	37.6	695.4	130.7	1.000290
4500.0	603.8	56.3	12.4	42.0	1045.4	130.7	1.000285
5000.0	653.9	44.6	12.0	45.2	992.7	674.4	1.000281
5500.0	819.0	35.1	11.7	49.7	950.5	572.6	1.000278
6000.0	824.3	31.6	11.5	52.4	968.2	570.9	1.000275
6500.0	609.9	30.1	11.1	56.1	956.1	669.2	1.000271
7000.0	795.7	15.5	10.7	59.8	944.2	667.5	1.000268
7500.0	781.8	17.1	16.4	63.5	932.5	665.8	1.000264
8000.0	763.1	15.5	9.6	67.2	911.3	664.0	1.000263
8500.0	754.6	14.2	9.0	70.9	909.7	662.2	1.000259
9000.0	741.1	13.5	7.4	65.9	907.6	660.8	1.000255
9500.0	727.6	11.7	7.0	72.8	885.3	659.3	1.000246
10000.0	714.7	10.5	6.5	76.6	871.3	657.8	1.000240
10500.0	761.3	9.2	6.0	80.5	861.6	656.3	1.000236
11000.0	699.0	8.0	4.9	86.7	849.6	654.8	1.000231
11500.0	576.4	7.0	1.4	67.6	938.0	653.3	1.000219
12000.0	664.1	6.9	-5.5	59.0	643.2	653.1	1.000212
12500.0	651.6	6.0	-6.0	51.7	510.8	652.0	1.000205
13000.0	639.4	4.7	-6.6	43.5	799.4	650.5	1.000202
13500.0	628.0	3.5	-16.6	69.1	756.2	649.1	1.000203
14000.0	616.4	3.1	-11.0	34.8	776.1	648.0	1.000198
14500.0	604.9	2.3	-6.5	13.3	751.8	647.9	1.000194
15000.0	593.6	2.4	-6.1	62.4	746.5	647.6	1.000191
15500.0	582.5	1.4	-5.9	56.2	737.2	646.3	1.000189
16000.0	571.6	0.5	-7.6	53.9	716.2	645.1	1.000184
16500.0	560.9	-0.4	-12.6	58.4	776.1	644.0	1.000179
17000.0	550.4	-1.0	-2.1	58.5	707.0	643.4	1.000174
17500.0	539.9	-1.9	-16.3	51.1	691.8	642.4	1.000171
18000.0	529.7	-2.2	-9.6	52.6	681.1	641.1	1.000167
18500.0	519.5	-3.4	-10.2	58.1	671.0	639.2	1.000163
19000.0	509.7	-4.7	-12.6	53.2	660.4	638.8	1.000159
19500.0	500.0	-5.1	-16.3	41.0	649.0	638.2	1.000156
20000.0	490.4	-4.9	-24.2	19.9	636.4	638.3	1.000153
20500.0	481.0	-5.6	-25.2	15.0	626.4	637.2	1.000150
21000.0	471.7	-7.1	-29.3	15.0	617.4	635.6	1.000146
21500.0	462.6	-6.3	-36.3	15.0	608.1	634.1	25.8
22000.0	453.5	-7.0	-31.1	15.2	597.0	632.7	1.000143
22500.0	444.5	-12.7	-12.0	15.3	582.8	631.5	26.6
23000.0	435.3	-11.8	-26.9	15.4	617.8	629.8	1.000141

STATION ALTITUDE 39°20' N.  
7 JULY 83 1100 MDT  
ASCENSION NO. 341

## UPPER AIR DATA

1°00.0N 106.3W

WHITE SANDS

GEODETIC COORDINATES  
31°40.0N LAT DEG  
106.3W LON DEG

TABLE 10 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	SPEED OF SOUND METER KNOTS	WIND DATA DIRECTION DEGREES(CTN)	INDEX OF REFRACTION
23500.0	427.2	-13.0	73.8	15.6	571.9	1.000129
24000.0	416.0	-14.4	74.6	15.7	567.2	1.000127
24500.0	410.5	-15.4	75.5	15.6	554.6	1.000125
25000.0	402.4	-16.3	76.4	15.0	546.2	1.000123

STATION ALTITUDE 3969.0 FEET RSL  
 7 JULY 82 1100 MDT  
 ASCENSION NO. 341

MANDATORY LEVELS  
 1800Z 20341  
 WHITE SANDS  
 TABLE 11

GEODETIC COORDINATES  
 32° 40.043 LAT DEG  
 106° 37.033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		RHUM. PERCENT	WIND DATA	
		DEGREES	CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
257.0	2122.	24.2	11.0	46.	137.7	5.0
300.0	2057.	19.1	10.8	59.	147.2	9.9
750.0	6463.	13.8	8.3	70.	131.2	11.9
700.0	10559.	9.0	5.0	81.	120.1	8.6
651.0	12556.	5.8	-0.9	63.	119.6	7.8
400.0	14593.	2.7	-4.1	50.	167.6	4.2
550.0	16995.	-1.1	-8.1	59.	155.7	11.2
350.0	19472.	-5.1	-16.1	41.	157.7	17.3
430.0	21160.	-10.0	-31.5	15.	151.4	25.9
400.0	25110.	-16.9	-36.7	16.		

STATION ALTITUDE 39.69 FET MSL  
7 JULY 1300 MDT  
ASCENSION NO. 342

SIGNIFICANT LEVEL DATA  
1600U 0342  
WHITE SANDS

TABLE 12

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE AIR DEPOINT	REL.HUM. PERCENT
MILLIBARS MSL FEET	DEGREES	CENTIGRADE	
861.4	7989.0	31.9	32.0
272.6	4351.0	28.2	35.0
850.0	5111.9	25.7	40.0
709.2	6522.3	20.6	52.0
744.5	8056.2	14.5	62.0
730.0	10558.2	12.1	76.0
573.0	11407.9	8.1	84.0
600.0	12153.1	6.1	34.0
630.4	13402.2	3.2	25.0
616.2	14444.1	1.2	97.0
597.3	14835.9	.9	-5.0
579.5	15637.0	1.2	64.0
535.8	17645.8	-3.8	-8.0
529.4	16056.7	-3.5	-6.0
520.0	18471.4	-4.4	-13.5
511.0	18984.7	-5.4	-17.0
500.0	19496.3	-6.3	-23.0
427.7	23151.0	-12.9	-31.5
400.0	25112.1	-17.6	-34.5

GEODETIC COORDINATES  
32°40'03" LAT DEG  
106°37'33" LON DEG

STATION ALTITUDE 3934.5 FEET MSL  
7 JULY 83 1100 NDT  
ASCENSION NO. 342

UPPER AIR DATA  
196007042  
WHITE SANDS  
TABLE 13

6100111 COORDINATES  
32°40'04.3 LAT DEG  
104°27'33" LONG DEG

GEOMETRIC PRESSURE ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	WIND VELOCITY CENTIGRADE	REFL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
5939.0	883.4	21.9	13.6	1002.3	682.6	130.0	5.1	1.000225	
4700.0	853.1	11.3	13.1	1002.3	682.5	130.0	5.1	1.000235	
4530.0	855.1	27.7	11.3	36.0	990.3	677.7	131.1	5.5	1.000274
5600.0	855.3	-6.1	11.1	35.3	987.5	675.9	132.1	6.0	1.000276
2500.0	848.6	74.3	11.0	43.3	975.3	673.9	132.9	6.4	1.000274
1700.0	824.1	12.0	10.6	47.6	955.1	671.8	133.6	6.5	1.000271
650.0	809.8	70.7	10.4	51.8	954.6	669.3	134.6	7.3	1.000268
7000.0	795.6	19.4	9.6	54.0	942.0	668.2	140.0	7.6	1.000264
7537.0	781.0	16.1	9.4	56.2	929.7	666.7	150.4	6.5	1.000259
6000.0	767.3	16.3	9.5	58.3	917.6	665.1	150.5	5.8	1.000255
4520.0	754.3	15.2	7.8	60.4	905.6	663.6	140.0	6.0	1.000250
9000.0	745.9	14.4	7.3	53.3	873.7	662.1	128.4	6.0	1.000246
7527.0	727.6	12.9	7.1	53.0	861.5	660.6	127.7	6.2	1.000243
10000.0	714.6	11.6	6.6	72.7	852.7	659.1	128.4	5.7	1.000240
15500.0	701.7	10.3	6.5	77.4	859.7	657.5	133.4	5.0	1.000237
11000.0	689.0	9.1	6.5	81.1	846.1	656.2	136.7	5.9	1.000233
11500.0	676.5	7.9	5.5	85.2	834.4	654.7	136.3	5.8	1.000229
14000.0	354.1	6.5	5.3	91.9	923.1	653.2	135.0	5.7	1.000227
15000.0	651.9	5.5	4.5	94.3	811.5	651.7	130.9	5.3	1.000222
15000.0	334.9	4.1	3.4	94.7	800.2	650.2	127.9	5.0	1.000217
15500.0	626.1	5.0	2.2	74.2	788.9	646.8	127.6	4.9	1.000214
14500.0	616.4	2.1	1.7	90.4	777.2	667.5	126.7	4.6	1.000205
14500.0	604.9	1.4	-1.6	85.3	765.5	666.4	124.1	4.2	1.000199
15000.0	393.6	1.0	-3.4	72.7	757.1	645.0	132.3	4.1	1.000192
15500.0	382.3	1.1	-4.5	65.3	737.7	646.1	144.2	4.7	1.000186
16000.0	571.5	0.3	-5.5	64.2	726.7	645.1	127.2	6.0	1.000184
16500.0	363.5	-0.2	-6.5	66.1	715.8	643.6	156.7	2.8	1.000179
17000.0	550.4	-2.2	-7.4	67.4	705.6	642.1	157.5	11.7	1.000175
17500.0	334.8	-1.4	-8.4	59.6	695.5	640.5	157.6	11.8	1.000172
18000.0	529.5	-3.5	-8.6	57.9	692.5	642.4	158.3	12.5	1.000169
18500.0	519.4	-4.5	-15.7	46.2	677.5	639.1	156.2	13.5	1.000161
19000.0	519.5	-5.6	-18.8	34.4	662.6	637.6	153.2	14.6	1.000155
19500.0	497.7	-7.5	-24.0	23.0	652.7	636.6	149.8	17.2	1.000150
20000.0	480.6	-7.1	-25.0	22.4	641.4	635.5	147.9	20.0	1.000147
20500.0	480.4	-6.1	-26.0	21.9	634.4	634.4	148.4	23.0	1.000144
21000.0	471.1	-9.3	-27.1	21.4	623.9	633.4	149.1	25.7	1.000142
21500.0	461.9	-9.2	-28.1	20.8	610.9	622.4	150.1	26.7	1.000139
22000.0	452.9	-10.3	-29.1	20.3	601.7	611.2	150.0	27.7	1.000137
22500.0	444.1	-11.0	-30.2	19.7	591.3	600.1	151.7	28.4	1.000134
23000.0	435.4	-11.5	-31.2	19.2	581.7	629.1	150.7	29.4	1.000132

STATION ALTITUDE 3950 FEET MSL  
7 JULY 83 1100 MDT  
ASCENSION NO. 142

UPPER AIR DATA  
1080320342  
WHITE SANDS  
MOUNTAIN STATION

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND METER KNOTS	WIND DATA DIRECTION DEGREES (T) KNOTS	INDEX OF REFRACTION
21500.0	625.3	-13.5	-31.0	19.3	577.7	150.1
20000.0	418.3	-14.9	-32.6	19.9	564.0	150.2
24500.0	416.0	-16.1	-33.6	20.4	555.4	150.7
25000.0	401.9	-17.3	-34.4	20.9	547.0	150.2

STATION ALTITUDE 905.0 FEET MSL  
 7 JULY 83 1100 MDT  
 ASCENSION NO. 542

MANDATORY LEVELS  
 1P600J2U142  
 WHITE SANDS

TABLE 14

PRESSURE (FEET)	GEOPOTENTIAL MILLIBARS	TEMPERATURE		REL.HUM. PERCENT	WIND DATA	
		AIR DEGREES	DEWPNT DEGREES C Fahr Grade		DIRECTION DEGREES (TN)	SPEED KNOTS
5109.	5109.	25.7	11.1	40.	132.7	6.1
6461.	6461.	19.8	10.0	53.	138.3	7.5
8653.	8653.	15.0	7.6	61.	136.1	6.2
10559.	10559.	10.1	6.4	78.	134.0	5.6
12567.	12567.	5.1	6.3	94.	150.2	5.2
14679.	14679.	1.0	-2.7	79.	127.2	6.2
16790.	16790.	-2.2	-7.4	67.	157.0	10.8
19457.	19457.	-6.3	-26.0	75.	150.0	17.1
21366.	21366.	-11.0	-29.5	20.	151.7	27.3
25069.	25069.	-17.6	-34.6	21.		

GEODETIC COORDINATES  
 32°46'44" LAT DEG  
 136°37'33" LON DEG

END  
DATE  
FILMED

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